

REMARKS/ARGUMENTS

Status of Claims

Claims 1-4, 6-7, and 9-11 are pending in the application with claim 1 being the only independent claim. Claims 5 and 8 have been previously cancelled without prejudice or disclaimer. Claims 1 and 11 have been amended to address alleged informalities without narrowing the scope of the original claims or any element contained therein.

No new matter has been added.

Overview of the Office Action

Claims 1-4, 6-7, and 9-11 have been rejected under 35 U.S.C. § 112, first and second paragraphs, due to alleged informalities.

Claims 1-4, 6, and 9-11 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Matsumoto (US 6,035,911) in view of JP '712 (JP 09-099712) and in view of at least one of JP '935 (JP 63-039935), JP '311 (JP 2002-275311), and Hausmann (US 5,252,649).

Claim 7 has been rejected under 35 U.S.C. § 103(a) as unpatentable over Matsumoto in view of JP '712 and in view of at least one of JP '935, JP '311, and Hausmann and further in view of JP '701 (JP 2000-153701).

Claims 1-4, 6-7, and 9-11 have been rejected under 35 U.S.C. § 103(a) as unpatentable over JP '701 in view of at least one of JP '935, JP '311, and Hausmann.

Amendments and Remarks Addressing 35 U.S.C. § 112 Rejections

Claims 1-4, 6-7, and 9-11 have been rejected under 35 U.S.C. § 112, second paragraph, because the Examiner states that "before the tire is used" and "the time before the tire is used" is ambiguous. The expression "before the tire is used" is to be understood as the state of the tire after molding and before rolling on a vehicle. In other words, when the expression "before the

tire is used” means that the tire is new and not worn. Support for this is found in paragraph [0009], lines 10-12, of the published version of the specification in US 20007/0062623.

The Examiner further states that the claim recitation that “the at least one base mix extends to the contact face” is unclear. With respect to that limitation, applicants submit the following.

The subject invention includes two embodiments. In a first embodiment, the base mix is present on the tread rolling surface when the tire is new. In a second embodiment, the covering mix covers the tread rolling surface when the tire is new.

Concerning the second embodiment, independent claim 1 indicates that the thickness of the covering mix surface layer present on the tread rolling surface is at most 10% of the height H_R of the coverage. That it, after wear of “at most 10% of the height H_R of the covering mix”, the base mix is uncovered and is present on the tread rolling surface. To further clarify the claimed subject matter, independent claim 1 has been amended to recite “the at least one base mix extends to the contact face either before the tire is used or after wear is up to 10% of the height H_R of the covering mix.”

The Examiner further states that “ester” in claim 11 should be changed to --the fatty acid ester type--. Claim 11 has been amended, as suggested in the Office Action.

In view of all the above, the 35 U.S.C. § 112, second paragraph, rejections have been overcome.

Claims 1-4, 6-7, and 9-11 have been rejected under 35 U.S.C. § 112, first paragraph, because the Examiner states that “the at least one base mix extends to the contact face from the time before the tire is used until, at the latest, after wear is up to 10% of the height H_R of the covering mix”, is not described in the specification.

As explained above with respect to the 35 U.S.C. §112, second paragraph, rejection, independent claim 1 has been amended to recite “the at least one base mix extends to the contact face either before the tire is used or after wear is up to 10% of the height Hr of the covering mix.” This amended recitation clearly corresponds to the two different conditions described in paragraph [0009] of the specification.

In view of all the above, the 35 U.S.C. § 112, first paragraph, rejections have been overcome.

Summary of the Subject Matter Disclosed in the Specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The present application provides a tire tread that is formed by a base rubber mix (MB) having good wear properties on dry road and by a covering rubber mix (MR) on the sidewalls (13 - 16) of the tread pattern elements (1). The covering rubber mix (MR) comprises the following composition to improve grip performance of the tread:

- a given proportion of butyl rubber (e.g., more than 15 phr); and
- a plasticizer of unsaturated C₁₂-C₂₂ fatty acid ester type.

The above covering rubber composition enhances grip performance on wet roadways. The provision of such composition and its location only on the sidewalls (13-16) of the tread pattern elements (1) surprisingly improve the wet grip performance for the entire tread, comparing to a tread band having only a rubber mix good in wear. For example, the covering rubber mix (MR) in the subject application can prevent the tread from skidding on wet roadways.

See, e.g., Fig. 2 and paragraphs [0004]-[0005] and [0012]-[0013] of the published version of the specification in US 20007/0062623.

Patentability of the Claimed Invention

- A. Independent claim 1 is not obvious over Matsumoto in view of JP '712, JP '935, JP '311, and Hausmann

Independent claim 1 recites "said covering mix comprising ... a plasticiser of an unsaturated C₁₂-C₂₂ fatty acid ester type."

The Office Action acknowledges that Matsumoto does not teach the above recited features of independent claim 1 (see page 5, lines 1-2 of the Office Action). The Office Action takes the position that the above claim features are obvious in view of JP '935, JP '311, and Hausmann.

Applicants disagree with the above position stated in the Office Action because none of JP '935, JP '311, Hausmann teach adding a fatty acid ester to a "covering mix" of the tire tread for detailed reasons below.

JP '935 teaches a rubber composition, which can include glycerol ester. The rubber composition can be used for making a tire, especially the tread part of the tire, which is used in ice or snow (see English language Abstract of JP '935). Accordingly, JP '935 discloses a rubber composition that is used for a snow tire to prevent hardening of the tread part.

Since JP '935 teaches a composition for an entire tread of a snow tire to prevent hardening of the tread, there is no teaching or suggestion in JP '935 that the glycerol ester be used as part of a "covering mix," which covers "the lateral faces [of the tread pattern elements]" as recited in independent claim 1. In contrast, JP '935 generally teaches that its rubber composition can be used for making a tire, and the tread part of the tire, in particular a snow tire, to prevent hardening of the rubber. Consequently, without further teachings or suggestions, the combination of Matsumoto and JP '935 can result in a tread containing glycerol ester in the base mix, rather than the covering mix as explicitly recited in independent claim 1. JP '935 thus does not remedy Matsumoto's deficiencies discussed above.

Similarly, neither JP '311 nor Hausmann teach adding a fatty acid ester to a "covering mix" of the tire tread as explicitly recited in independent claim 1. Accordingly, none of JP '935, JP '311, and Hausmann teaches or suggests "said covering mix comprising ... a plasticiser of an unsaturated C₁₂-C₂₂ fatty acid ester type," as recited in independent claim 1.

JP '712 is cited against other features recited in independent claim 1 and does not remedy the deficiencies of Matsumoto, JP '935, JP '311, and Hausmann.

In view of all the above, independent claim 1 is allowable over the Matsumoto, JP '712, JP '935, JP '311, and Hausmann.

B. Independent claim 1 is not obvious over JP '701,
in view of JP '935, JP '311, and Hausmann

The Office Action acknowledges that JP '701 does not teach using "unsaturated C₁₂-C₂₂ fatty acid ester type," as recited in independent claim 1 (see bottom of the page 8 of the Office Action). Because none of JP '935, JP '311, and Hausmann remedies the deficiencies of JP '791 as applicants stated in the above Section A, independent claim 1 is allowable over JP '701, in view of JP '935, JP '311, and Hausmann.

C. Dependent Claims 2-4, 6-7, and 9-11

Claims 2-4, 6-7, and 9-11 depend, directly or indirectly, from allowable independent claim 1 and are thus allowable therewith. Moreover, these dependent claims each include features that serve to further distinguish the claimed invention over the applied prior art.

Conclusion

Based on all of the above, the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,
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